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Atty. Dkt. No. 034536-0726

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Gregory D. Plowman *et al.*

Title: NOVEL PROTEIN PHOSPHATASES AND DIAGNOSIS AND  
TREATMENT OF PHOSPHATASE RELATED DISORDERS

Appl. No.: 10/049,515

Filing Date: June 14, 2002

Examiner: R. Prouty

Art Unit: 1652

**RESPONSE TO RESTRICTION REQUIREMENT**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This paper is a response to the Office Action mailed on June 3, 2004. Because the response is being filed within the 1-month shortened statutory period for reply, it is timely.

The Office has restricted the invention 140 ways, as follows. First, the Office required election from Groups I-VII, as set forth below:

- |           |   |
|-----------|---|
| Group I   | Claims 1-5 and 12, drawn to polynucleotides encoding a dual specificity phosphatase and method of use thereof;                              |
| Group II  | Claims 6-8, drawn to a dual specificity phosphatase;  |
| Group III | Claim 9-10, drawn to antibodies to a dual specificity phosphatase;  |
| Group IV  | Claim 11, drawn to methods of screening for a modulator of a dual specificity phosphatase;  |
| Group V   | Claims 13-17, drawn to methods of treating with a modulator of a dual specificity phosphatase;  |
| Group VI  | Claims 18-20, drawn to methods of diagnosing a disease using hybridization to a polynucleotide encoding a dual specificity phosphatase; and |

Group VII      Claims 21-23, drawn to methods of diagnosing a disease by detecting sequence variations in a polynucleotide encoding a dual specificity phosphatase.

Additionally, the Office required election of one phosphatase from among those represented by SEQ ID NOs: 2, 4, 6, 8, . . . , 34, 38, 40 and 42.

**In response, Applicants elect, *with traverse*, to prosecute Group I and SEQ ID NO: 26.**

As a basis of traversal, Applicants submit that the Office has misapplied “unity of invention principles.” Unless the claimed subject matter lacks unity of invention, it is improper for the Office to refuse to examine what Applicants regard as their invention. See, *e.g.*, *In re Harnish*, 631 F.2d 716 (CCPA 1980); *In re Weber*, 580 F.2d 455 (CCPA 1978) and *In re Haas*, 580 F.2d 461 (CCPA 1987).

The Office improperly restricted subject matter unified by a “special technical feature” defining a contribution over the prior art. 37 C.F.R. § 1.475. In particular, each novel kinase disclosed in the present application constitutes a “special technical feature” that provides a unifying concept for all claims relating to that kinase. Accordingly, Groups I-VII should be rejoined for the examination of each novel dual specificity phosphatase.

Additionally, the Office improperly restricted Markush groups within the claims. Unity of invention exists where compounds included within a Markush group (1) share a common utility, and (2) share a substantial structural feature disclosed as being essential to that utility. MPEP 803.02. In this case, the claimed polynucleotides and polypeptides share substantial structural features indicative of their common utilities. At one level, all the polypeptides have defining structural features of dual specificity phosphatases. At a more detailed level, polypeptides represented by SEQ ID NOs: 2 and 42 share structural features indicative of the CDC14 protease family; proteins represented by SEQ ID NOs: 4, 6, 8, . . . , 30 and 32 share structural features indicative of the MKP phosphatase family; proteins represented by SEQ ID NOs: 34 and 38 share structural features indicative of the MTM phosphatase family. (Specification, Figure 1).

Finally, the Office failed to establish that the examination of more than one phosphatase sequence creates a serious burden. See MPEP § 803. Indeed, the requirement to elect a single


sequence runs counter to the PTO's own policy that "up to ten (10) independent and distinct nucleotide sequences [normally] will be examined in a single application without restriction," to aid the biotechnology industry "without creating an undue burden on the Office." See *Examination of Patent Applications Containing Nucleotide Sequences*, 1192 O.G. 68 (November 19, 1996) and MPEP 803.04. The Office has failed to articulate any justification for suspending that policy in this case. In particular, the Office has not established that the sequences in this application are any more difficult to examine than those in a "normal" biotechnology case, thereby making it unreasonable to examine more than a single sequence.

For these reasons, Applicants respectfully request withdrawal or revision of the restriction requirement.

The Commissioner is hereby authorized to charge any additional fees that may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. § 1.136 and authorize payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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